WHAT IS CLAIMED IS:

1. Isolated muscle-derived progenitor cells having long-term survivability when introduced into mammals, wherein the cells express cell markers selected from the group consisting of at least desmin, CD34, and Bcl-2.

2. The cells according to claim 1, further wherein the cells express Sca-1 and Flk-1 cell markers, and do not express CD45 and c-Kit cell markers.

3. A physiologically acceptable composition comprising the muscle-derived progenitor cells according to claim 1, and a carrier, excipient, or diluent.

4. A method of augmenting or bulking non-muscle soft tissue in a mammal comprising: administering the composition according to claim 3 to the soft tissue in an amount sufficient to augment or bulk the tissue.

5. The method according to claim 4, wherein the non-muscle soft tissue is selected from the group consisting of digestive, reproductive, cardiovascular, urological, neural, respiratory, epithelial, dermal, and connective tissue.

6. The method according to claim 5, wherein the digestive tissue is selected from the group consisting of oral, esophageal, stomach, liver, gall bladder, pancreatic, intestinal, and anal tissue.

7. The method according to claim 5, wherein the reproductive tissue is selected from the group consisting of uterine, vaginal, clitoral, vulval, ovarian, fallopian tube, breast, vas deferens, scrotal, testes, and penile tissue.

8. The method according to claim 5, wherein the cardiovascular tissue is selected from the group consisting of heart, arterial, vein, and capillary tissue.

9. The method according to claim 5, wherein the urological tissue is selected from the group consisting of kidney, urethral, ureter, and bladder tissue.

10. The method according to claim 5, wherein the neural tissue is selected from the groups consisting of nerve, spinal cord, and brain tissue.

11. The method according to claim 5, wherein the respiratory tissue is lung or tracheal tissue.

12. The method according to claim 5, wherein the epithelial tissue is skin or lumenal tissue.

13. The method according to claim 5, wherein the connective tissue is selected from the group consisting of adipose, cartilage, ligament, and lymph tissue.

14. The method according to claim 4, wherein the administration is by injection into the soft tissue or by intravenous delivery.

15. The method according to claim 4, wherein the administration is mediated by an absorbent or adherent carrier material.

16. The method according to claim 4, wherein the composition comprises cells which are autologous or allogeneic to the soft tissue.

17. A method of augmenting or bulking muscle tissue in a mammal comprising: administering the composition according to claim 3 to the muscle tissue in an amount sufficient to augment or bulk the tissue.

18. The method according to claim 17, wherein the muscle tissue is skeletal or smooth muscle tissue.

19. The method according to claim 17, wherein the muscle tissue is selected from the group consisting of digestive, reproductive, cardiovascular, urological, and respiratory tissue.

20. The method according to claim 19, wherein the digestive tissue is selected from the group consisting of tongue, esophageal, stomach, intestinal, and anal tissue.

21. The method according to claim 19, wherein the reproductive tissue is selected from the group uterine, vaginal, clitoral, fallopian tubes, penile, and vas deferens tissue.

22. The method according to claim 19, wherein the cardiovascular tissue is selected from the group consisting of arteries, capillaries, veins, and heart tissue.

23. The method according to claim 19, wherein the urological tissue is selected from the group consisting of kidney, bladder, urethral, and ureter tissue.

24. The method according to claim 19, wherein the respiratory tissue is tracheal or lung tissue.

25. The method according to claim 17, wherein the administration is by injection into the muscle tissue or by intravenous delivery.

26. The method according to claim 17, wherein the administration is mediated by an absorbent or adherent carrier.

27. The method according to claim 17, wherein the composition comprises cells which are autologous or allogeneic to the muscle tissue.

28. A method of treating a defect in non-muscle soft tissue in a mammal comprising: administering the composition according to claim 3 to the non-muscle soft tissue in an amount sufficient to treat the defect.

29. The method according to claim 28, wherein the non-muscle soft tissue is selected from the group consisting of digestive, reproductive, cardiovascular, urological, neural, respiratory, epithelial, dermal, and connective tissue.

30. The method according to claim 28 wherein the defect is selected from the group consisting of lesions, fissures, diverticulae, cysts, depressions, fistulae, aneurysms, and wounds secondary to injury, trauma, surgery, or disease.

31. The method according to claim 29, wherein the digestive tissue is selected from the group consisting of oral, esophageal, stomach, liver, gall bladder, pancreatic, intestinal, and anal tissue.

32. The method according to claim 29, wherein the reproductive tissue is selected from the group consisting of fallopian tube, uterine, vaginal, vulval, ovarian, clitoral, breast, vas deferens, scrotal, testes, and penile tissue.

33. The method according to claim 29, wherein the cardiovascular tissue is selected from the group consisting of heart, arterial, vein, and capillary tissue.

34. The method according to claim 29, wherein the urological tissue is selected from the group consisting of kidney, urethral, ureter, and bladder tissue.

35. The method according to claim 29, wherein the neural tissue is selected from the groups consisting of nerve, spinal cord, and brain tissue.

36. The method according to claim 29, wherein the respiratory tissue is lung or tracheal tissue.

37. The method according to claim 29, wherein the connective tissue is selected from the group consisting of adipose, cartilage, ligament, and lymph tissue.

38. The method according to claim 29, wherein the epithelial tissue is skin tissue.

39. The method according to claim 28, wherein the defect is selected from the group consisting of wrinkles, cutaneous depressions of non-traumatic origin, rhytids, stretch marks, depressed scars, scaring from acne vulgaris, hypoplasia of the lip, and wounds secondary to injury, trauma, surgery, or disease.

40. The method according to claim 39, wherein the cutaneous depressions comprise facial depressions.

41. The method according to claim 40, wherein the facial depressions comprise the region surrounding the eyes.

42. The method according to claim 28, wherein the administration is by injection into the soft tissue or by intravenous delivery.

43. The method according to claim 28, wherein the administration is mediated by an absorbent or adherent carrier material.

44. The method according to claim 28, wherein the composition comprises cells which are autologous or allogeneic to the tissue.

45. A method of treating weakness or dysfunction in muscle tissue in a mammal comprising: administering the composition according to claim 3 to the muscle tissue in amounts sufficient to treat the weakness or dysfunction.

46. The method according to claim 45, wherein the tissue is skeletal or smooth muscle tissue.

47. The method according to claim 45, wherein the weakness or dysfunction is secondary to a sports-related injury.

48. The method according to claim 46, wherein the tissue is sphincter tissue.

49. The method according to claim 46, wherein the tissue is selected from the group consisting of esophageal, anal, cardiac, pyloric, and urinary sphincter tissue.

50. The method according to claim 45, wherein the weakness or dysfunction is selected from the group consisting of vesico-ureteral reflux, urinary incontinence, gastroesophageal reflux, and fecal incontinence.

51. The method according to claim 45, wherein the tissue is heart tissue.

52. The method according to claim 51, wherein the weakness or dysfunction is secondary to heart failure or myocardial infarction.

53. The method according to claim 45, wherein the administration is by injection into the tissue or by intravenous delivery.

54. The method according to claim 45, wherein the administration is by an absorbent or adherent material.

55. The method according to claim 45, wherein the composition comprises cells which are autologous or allogeneic to the muscle tissue.

56. A method of augmenting or bulking non-muscle, non-bone soft tissue in a mammal comprising: administering the composition according to claim 3 to the non-muscle, non-bone soft tissue in an amount sufficient to augment or bulk the tissue.

57. The method according to claim 56, wherein the non-muscle, non-bone soft tissue is selected from the group consisting of digestive,

reproductive, cardiovascular, urological, neural, respiratory, epithelial, dermal, and connective tissue.

58. The method according to claim 57, wherein the digestive tissue is selected from the group consisting of oral, esophageal, stomach, liver, pancreatic, intestinal, and anal tissue.

59. The method according to claim 57, wherein the reproductive tissue is selected from the group consisting of fallopian tube, uterine, vaginal, vulval, clitoral, ovarian, breast, vas deferens, scrotal, testes, and penile tissue.

60. The method according to claim 57, wherein the cardiovascular tissue is selected from the group consisting of heart, arterial, vein, and capillary tissue.

61. The method according to claim 57, wherein the urological tissue is selected from the group consisting of kidney, urethral, ureter, and bladder tissue.

62. The method according to claim 57, wherein the neural tissue is selected from the groups consisting of nerve, spinal cord, and brain tissue.

63. The method according to claim 57, wherein the respiratory tissue is lung or tracheal tissue.

64. The method according to claim 57, wherein the epithelial tissue is skin or lumenal tissue.

65. The method according to claim 57, wherein the connective tissue is selected from the group consisting of adipose, cartilage, ligament, and lymph tissue.

66. The method according to claim 56, wherein the administration is by injection into the soft tissue or by intravenous delivery.

67. The method according to claim 56, wherein the administration is mediated by an absorbent or adherent carrier material.

68. The method according to claim 56, wherein the composition comprises cells which are autologous or allogeneic to the tissue.

69. The method according to claim 56, wherein said augmentation or bulking results in treatment of the defect in the non-muscle, non-bone soft tissue.

70. The method of claim 69, wherein the defect is selected from the group consisting of lesions, fissures, diverticulae, cysts, fistulae, aneurysms, and wounds secondary to injury, trauma, surgery, or disease.

71. The method according to claim 69, wherein the tissue is digestive tissue selected from the group consisting of oral, esophageal, stomach, liver, pancreas, gall bladder, intestine, and anal tissue.

72. The method according to claim 69, wherein the tissue is reproductive tissue selected from the group consisting of fallopian tube, uterine, vaginal, vulval, clitoral, ovarian, breast, vas deferens, scrotal, testes, and penile tissue.

73. The method according to claim 69, wherein the tissue is cardiovascular tissue selected from the group consisting of heart, arterial, vein, and capillary tissue.

74. The method according to claim 69, wherein the tissue is urological tissue selected from the group consisting of kidney, urethral, ureter, and bladder tissue.

75. The method according to claim 69, wherein the tissue is neural tissue selected from the groups consisting of nerve, spinal cord, and brain tissue.

76. The method according to claim 69, wherein the tissue is respiratory tissue selected from the group consisting of lung and tracheal tissue.

77. The method according to claim 69, wherein the tissue is epithelial tissue selected from the group consisting of skin and lumenal tissue.

78. The method according to claim 69, wherein the defect is selected from the group consisting of wrinkles, cutaneous depressions of non-traumatic origin, rhytids, stretch marks, depressed scars, scaring from acne vulgaris, hypoplasia of the lip, and wounds secondary to injury, trauma, surgery, or disease.

79. The method according to claim 78, wherein the cutaneous depressions comprise facial depressions.

80. The method according to claim 79, wherein the facial depressions comprise the region surrounding the eyes.

81. The method according to claim 69, wherein the administration is by injection into the soft tissue or by intravenous delivery.

82. The method according to claim 69, wherein the administration is mediated by an absorbent or adherent carrier material.

83. The method according to claim 69, wherein the composition comprises cells which are autologous or allogeneic to the soft tissue.

84. A method of isolating the muscle-derived progenitor cells according to claim 1, comprising:

a. enzymatically digesting muscle tissue to obtain a suspension of cells;

b. plating the cell suspension in a collagen coated flask;

c. removing the suspended, non-adherent cells;

d. re-plating the cells of (c) in a collagen coated flask;

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e. repeating steps (c) and (d) at least five times; and

f. isolating the cells present after the last plating.

85. A method of treating a defect in bone or non-muscle soft tissue in a mammal comprising: administering to the bone or non-muscle tissue the composition according to claim 3, wherein the cells comprise heterologous DNA encoding one or more active biomolecules, and wherein the biomolecules are expressed by the cells, thereby treating the defect.

86. A method of treating a defect in mammalian muscle tissue comprising: administering to the muscle tissue the composition according to claim 3, wherein the cells comprise heterologous DNA encoding one or more active biomolecules, and wherein the biomolecules are expressed by the cells, thereby treating the defect.

87. The method according to claim 85 or claim 86, wherein the active biomolecule is selected from the group consisting of cell growth factors, cell differentiation factors, cell signaling factors, and programmed cell death factors.

88. A method of treating gastroesophageal reflux, comprising administering a physiologically acceptable composition comprising muscle-derived progenitor cells to tissue of the lower esophageal sphincter.

89. The method according to claim 88, wherein the muscle-derived progenitor cells express desmin, CD34 and Bcl-2 markers.

90. The method according to claim 88, further wherein the muscle-derived progenitor cells express Sca-1 and Flk-1 cell markers, but do not express CD45 and c-Kit cell markers.

91. The method according to claim 88, wherein the composition is administered endoscopically or by injection into the tissue.

92. A method of treating aesthetic or cosmetic defects, comprising administering subcutaneously or intradermally the composition according to claim 3.

93. The method according to claim 92, wherein the composition is administered by injection into the tissue.

94. Isolated clonal muscle-derived progenitor cells having long-term survivability when introduced into mammals, wherein the clonally isolated cells co-express at least desmin and Bcl-2 cell markers.

95. The clonally isolated cells according to claim 94, further wherein the cells co-express CD34.

96. The clonally isolated cells according to claim 94, further wherein the cells express Sca-1 and Flk-1 cell markers, and do not express CD45 and c-Kit cell markers.

97. A method of restoring or improving contractility of smooth muscle tissue, comprising: administering the composition according to claim 3 to the smooth muscle tissue in an amount sufficient to restore or improve smooth muscle contractility.

98. The method according to claim 97, wherein the smooth muscle is gastrointestinal smooth muscle selected from the group consisting of esophagus smooth muscle, stomach smooth muscle and intestine smooth muscle.

99. The method according to claim 98, wherein the restoring or improving of the gastrointestinal smooth muscle results in improvement or correction of gastroparesis.